

INSULATION JUST GOT BETTER

ArmaGel HT

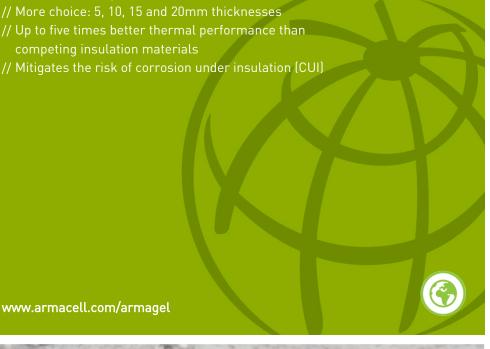
Flexible aerogel blanket for hightemperature applications

// Hot conditions up to 650 °C (1200 °F)

// More choice: 5, 10, 15 and 20mm thicknesses

// Up to five times better thermal performance than

// Mitigates the risk of corrosion under insulation (CUI)









INSULATION JUST GOT BETTER

ArmaGel HT

Welcome to the next generation of aerogel blanket technology. Flexible and bendable. Environmentally safe. Designed for incombustibility. Superior thermal performance. Hot conditions up to 650 $^{\circ}$ C (1200 $^{\circ}$ F) is no sweat. ArmaGel HT is the reliable solution for high-temperature applications.

High-temperature



Flexible



Hydrophobic



Learn more.

AEROGEL

Used by NASA to bring home a piece of a comet because it's strong enough to stop a bullet in its track, aerogel offers an uncanny array of physical properties - thermal, acoustical – and so holds incredible potential for insulation uses. As the name suggests, aerogel is a solid derived from gel in which the liquid component of the gel has been replaced with air making it dry and porous. In fact, over 90 percent of the volume is empty space making aerogel the world's lightest solid material. It's also 1,000 times less dense than glass, making it the world's lowest density solid material.





YOUR BENEFITS

// Increase coverage

New sizes and more choice. 10mm thickness available today. 5, 15 and 20mm coming soon. A thicker layer gives more insulation coverage per man hour than traditional aerogel insulation.

// Reduce labour cost

Cuts easily and conforms to preferred shapes, with less wastage, making it the right fit for installers.

// Reduce downtime

Product removal is made simple, reducing both downtime and the need to purchase replacement insulation during regular maintenance cycles.

// Superior thermal performance

Offering up to 5 times superior thermal performance versus like-for-like competing insulation products.

// Hydrophobic and breathable

Repels liquid water, but allows vapour to escape, helping to keep equipment drier for longer.

// Ultra-thin and ultra-light

Equal thermal performance at a fraction of the thickness. Improved handling and easier transportation.

// Versatile

More flexibility than traditional aerogel insulation materials.

// Environmentally safe

Chloride-free and landfill disposable.

// CUI defence

Hydrophobicity and breathability enhance protection against corrosion under insulation (CUI).

TECHNICAL DATA - ARMAGEL HT

Product cardiour range	Brief description			ble aerogel b aGel HT is co					ions with ma	ximum operati	ng temperatures up to	
ArmaCel HT is resistant to elevated operating temperatures up to 650°°C (1200 °Ft. The product is suitable for use in multi-layer applications including Arma Sound industrial Systems. Product range ables at the end of this document. Applications in class at the end of this document. Proposed and a passing and process equipment facilities. ArmaSel HT is also used as a component of ArmaSeund industrial Hypically accusing insulations are unable on multi-layer equipment facilities. ArmaSel HT is also used as a component of ArmaSeund industrial Systems to provide accusing insulations. Including ellows, fittings, flanges and industrial Systems to provide accusing insulations of the insulation of process equipment facilities. ArmaSel HT is also used as a component of ArmaSeund industrial Systems to provide accusing insulation. For industrial applications his recommended to consult the relevant ArmaSell application manualfal. For further information please contact our Technical Services. Property Value / Assessment Femperature (ADP) Assim C411, ASTM C447 ASTM C411, ASTM C411, ASTM C411 ASTM C411 ASTM C411, ASTM C411 ASTM C411, ASTM C411 ASTM C411, ASTM C411 ASTM C411 ASTM C411, ASTM C411 ASTM C	Material type	Aerogel blanket.										
Applications including Arma-Sound Industrial Systems. Product range Singer and Isonal I	Product colour range	Grey	Grey									
Property Part Par	Special features		plications including ArmaSound Industrial Systems.									
Class Companies Companie	Product range											
Property	Applications	oil and gas	s) and proc	ess equipme	nt facilities. A	ArmaGel HT	is also used	as a compon	ent of Arma	Sound Industria		
Max. "P Service temperature Power Max. "P Service Temperature	Installation				commended	to consult th	e relevant A	rmacell appl	ication manu	ıal(s). For furth	er information please	
Max. * C	Property	Value / Ass	Value / Assessment									
A	Temperature range											
Part	Service temperature ^{1,2,3,4}	Max. °C				Ма	x. °F				ASTM C411, ASTM C447	
Part		650				1,2	00					
	Thermal conductivity											
MEXI	Declared thermal conductivity ⁵	θm									ASTM C177	
In-Hz-2-F			0.021	0.022	0.023	0.025	0.029	0.032	0.036	0.043		
Hot surface performance? Pass			/ 0.14	0.15	0.16	0.18	0.20	0.22	0.25	0.30		
Linear shrinkage under soaking 2% in width and length eat 2% in width and length eat 2% in width and length eat 3% in width eat 3% in width and length eat 3% in width and length eat 3% in width and length eat 3% in width eat 3% in width and length eat 3% in width e	Temperature resistance											
Fire Performance and Approvals Reaction to fire Reaction to water vapour sorption Reaction to water Vapour sorption Reaction to water Vapour sorption Reaction to water Reaction to water Vapour Street Reaction to fire Reacti	Hot surface performance ²	Pass									ASTM C411	
Reaction to fire B-s1,d0 EN 13501-12 Surface burning characteristics 5 flame spread index 10 smoke development ASTM E84 Resistance to water vapour Water vapour sorption 5 % by weight ASTM C1104 Resistance to water Hydrophobic Yes Water absorption Pass ASTM C1763 Corrosion mitigation Corrosion mitigation Passed, Mass Loss Corrosion Rate (MLCR) not exceeding that of 5 ppm chloride solution on carbon steel coupon ASTM C1617, Procedure ASTM C692, ASTM C795 Physical attributes	Linear shrinkage under soaking heat	<2% in widtl	- <2% in width and length								ASTM C356	
Surface burning characteristics \$ 5 flame spread index \$ 10 smoke development	Fire Performance and Approvals											
Resistance to water vapour Water vapour sorption	Reaction to fire	B-s1,d0									EN 13501-1 ²	
Mater vapour sorption	Surface burning characteristics										ASTM E84	
Resistance to water Hydrophobic Yes Water absorption Pass ASTM C1763 Corrosion mitigation Corrosiveness to steel Passed, Mass Loss Corrosion Rate (MLCR) not exceeding that of 5 ppm chloride solution on carbon steel coupon ASTM C1617, Procedure A Stress corrosion cracking Pass ASTM C692, ASTM C795 Physical attributes	Resistance to water vapour											
Hydrophobic Yes Mater absorption Pass ASTM C1763 Corrosion mitigation Corrosiveness to steel Passed, Mass Loss Corrosion Rate (MLCR) not exceeding that of 5 ppm chloride solution on carbon steel coupon ASTM C1617, Procedure A ASTM C692, ASTM C795 Physical attributes	Water vapour sorption	≤ 5% by wei	ght								ASTM C1104	
Water absorption Pass ASTM C1763 Corrosion mitigation Corrosiveness to steel Passed, Mass Loss Corrosion Rate (MLCR) not exceeding that of 5 ppm chloride solution on carbon steel coupon ASTM C1617, Procedure A ASTM C692, ASTM C795 Physical attributes	Resistance to water											
Corrosion mitigation Corrosiveness to steel Passed, Mass Loss Corrosion Rate (MLCR) not exceeding that of 5 ppm chloride solution on carbon steel coupon ASTM C1617, Procedure A Stress corrosion cracking Pass ASTM C692, ASTM C795 Physical attributes	Hydrophobic	Yes										
Passed, Mass Loss Corrosion Rate (MLCR) not exceeding that of 5 ppm chloride solution on carbon steel coupon ASTM C1617, Procedure A Stress corrosion cracking Pass ASTM C692, ASTM C795 Physical attributes	Water absorption	Pass									ASTM C1763	
Stress corrosion cracking Pass ASTM C692, ASTM C795 Physical attributes	Corrosion mitigation											
Physical attributes	Corrosiveness to steel	Passed, Ma	ss Loss Co	rrosion Rate	(MLCR) not (exceeding th	at of 5 ppm o	chloride solu	tion on carbo	on steel coupor		
	Stress corrosion cracking	Pass							ASTM C692, ASTM C795			
Nominal density 180 kg/m³ (11 lb/ft³) ASTM C303	Physical attributes											
	Nominal density	180 kg/m³ (′	11 lb/ft³)								ASTM C303	

Property	Value / Assessment	Standard / Test method
Mechanical properties		
Compressive strength ⁶	≥ 3 psi/ 20.7 kPa at 10% compression	ASTM C165
Flexibility of insulation blankets	Flexible	ASTM C1101
Weather and UV resistance		
Weather resistance	In all industrial applications the outer layer of the material must be protected with an adequate covering like metal jacketing or preformed UV-cured GRP (Glass-Reinforced Plastic) cladding. Please contact Technical Services for guidance on the temperature limitations and specific construction considerations which need to be made for each jacketing system.	
Health and environment		
Fungal growth	No growth	ASTM C1338
Other technical features		
Shelf life ⁷	Max. 3 years	
Storage	Material shall be stored indoors, in clean and dry conditions, away from direct sunlight.	
15		

¹ For use in temperatures beyond the published value, please contact Technical Services.

² For operating temperatures above 400 °C (752 °F) a metallic foil barrier with 0.05 mm (0.002 inch) thickness must be additionally installed. For details please contact Technical Services.

³ For live line installations, refer to the ArmaGel HT and HTL application manual.

^{*}ArmaGel HT is designed for application where the operating temperatures are above ambient. In the event that the operating temperatures are below ambient please consult our technical services for further information and support.

 $^{^{5}\,\}text{Measured}$ under a load of 1.5 kPa (0.22 psi).

 $^{^{6}}$ Test performed with a preload of 13.8 kPa (2 psi).

⁷ Shelf life (maximum storage time) is limited to ensure that only currently manufactured products are installed on projects. This limitation is restricted solely to storage of the product and does not affect the lifetime of product after it has been installed.

Roll - jumbo

m Thickness [mm] Thickness [Inch		Width [inch] Length [m]		Length [ft]	EAN	Content [metric]	Content [imperial]
5	0.2	59	65	213.3	7612207462692	97.5 m²	1049.5 ft ²
10	0.4	59	40	131.2	7612207462708	60 m ²	645.8 ft ²
15	0.6	59	26	85.3	7612207463385	39 m²	419.8 ft ²
20	0.8	59	20	65.6	7612207462685	30 m ²	322.9 ft ²
			<u> </u>				
ce	10 mm (0.4 in) noi 15 mm (0.6 in) noi	minal thickness: minal thickness:	± 2.5 mm ± 3 mm				
	± 5%						
	± 3%						
	5 10 15 20	5 0.2 10 0.4 15 0.6 20 0.8 See 5 mm (0.2 in) nom 10 mm (0.4 in) non 15 mm (0.6 in) non 20 mm (0.8 in) non ± 5%	5 0.2 59 10 0.4 59 15 0.6 59 20 0.8 59 20 0.8 59 2e 5 mm (0.2 in) nominal thickness: ± 10 mm (0.4 in) nominal thickness: 15 mm (0.6 in) nominal thickness: 20 mm (0.8 in) nominal thickness: ± 5%	5 0.2 59 65 10 0.4 59 40 15 0.6 59 26 20 0.8 59 20 See 5 mm (0.2 in) nominal thickness: ± 1 mm 10 mm (0.4 in) nominal thickness: ± 2.5 mm 15 mm (0.6 in) nominal thickness: ± 3 mm 20 mm (0.8 in) nominal thickness: ± 4 mm ± 5%	5 0.2 59 65 213.3 10 0.4 59 40 131.2 15 0.6 59 26 85.3 20 0.8 59 20 65.6 See 5 mm (0.2 in) nominal thickness: ± 1 mm 10 mm (0.4 in) nominal thickness: ± 2.5 mm 15 mm (0.6 in) nominal thickness: ± 3 mm 20 mm (0.8 in) nominal thickness: ± 4 mm ± 5%	5 0.2 59 65 213.3 7612207462692 10 0.4 59 40 131.2 7612207462708 15 0.6 59 26 85.3 7612207463385 20 0.8 59 20 65.6 7612207462685 See 5 mm (0.2 in) nominal thickness: ± 1 mm 10 mm (0.4 in) nominal thickness: ± 2.5 mm 15 mm (0.6 in) nominal thickness: ± 3 mm 20 mm (0.8 in) nominal thickness: ± 4 mm ± 5%	5 0.2 59 65 213.3 7612207462692 97.5 m² 10 0.4 59 40 131.2 7612207462708 60 m² 15 0.6 59 26 85.3 7612207463385 39 m² 20 0.8 59 20 65.6 7612207462685 30 m² 30 m²

Roll - standard

tem Thickness [mm] Thickness [Incl		Thickness [Inch]	Width (m) Width [inch]		Length [m]	Length [ft]	EAN	Content [metric]		
AGH-05-00/150S	5	0.2	1.5	59	16	52.5	7612207454093	24 m ²		
AGH-10-00/150S	10	0.4	1.5	59	8	26.2	7612207452488	12 m²		
AGH-15-00/150S	15	0.6	1.5	59	6	19.7	7612207460230	9 m²		
AGH-20-00/150S	20	0.8	1.5	59	4	13.1	7612207454116	6 m ²		
Other information										
Thickness toleran	ce	5 mm (0.2 in) nom 10 mm (0.4 in) nor 15 mm (0.6 in) nor 20 mm (0.8 in) nor	minal thickness minal thickness	: ± 2.5 mm : ± 3 mm						
Length tolerance		± 5%								
Width tolerance	± 3%									

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ABOUT ARMACELL

As the inventor of flexible foam for equipment insulation and a leading provider of engineered foams, Armacell develops innovative and safe thermal and mechanical solutions that create sustainable value for its customers. Armacell's products significantly contribute to global energy efficiency making a difference around the world every day. With more than 3,300 employees and 27 production plants in 19 countries, the company operates two main businesses, Advanced Insulation and Engineered Foams. Armacell focuses on insulation materials for technical equipment, high-performance foams for acoustic and lightweight applications, recycled PET products, next-generation aerogel technology and passive fire protection systems.

